

Abstract

Known methods for instrumental voice quality evaluation based on comparing signal intensities of the voice signal to be evaluated with a reference voice signal do not optimally evaluate spectral distortions in the voice signal to be evaluated so that quality evaluation is unreliable. Moreover, by integrating the signal intensity in the frequency bands with constant band limits, certain falsifications of the voice signal to be evaluated, such as those caused, for instance, by coding systems with lower bit rates, are erroneously evaluated. In order to enhance prediction reliability of the evaluated quality parameters, distortions of the mean spectral envelope are extensively corrected with a weighting function $W_T(f)$ before comparing spectral properties. On the other hand, the fixed band limits for integration of spectral power density are suppressed and other band limits are searched for instead in a predetermined optimization area in which the resulting spectral intensity representations of the voice signal to be evaluated and the reference voice signal have maximum similarity. The solutions described can supplement known methods and can be incorporated into their structures.

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